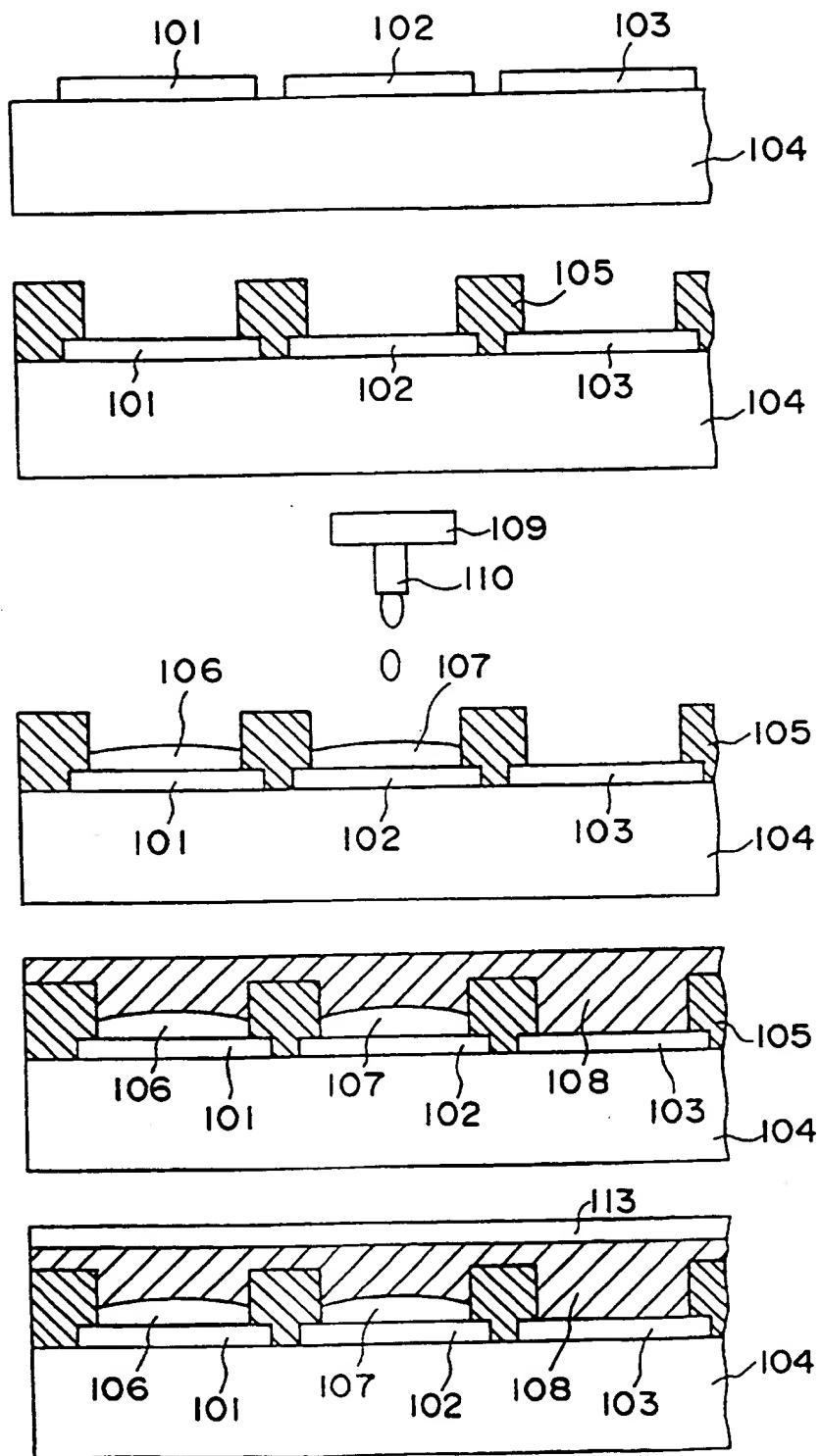


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FIG. 1



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FIG. 2

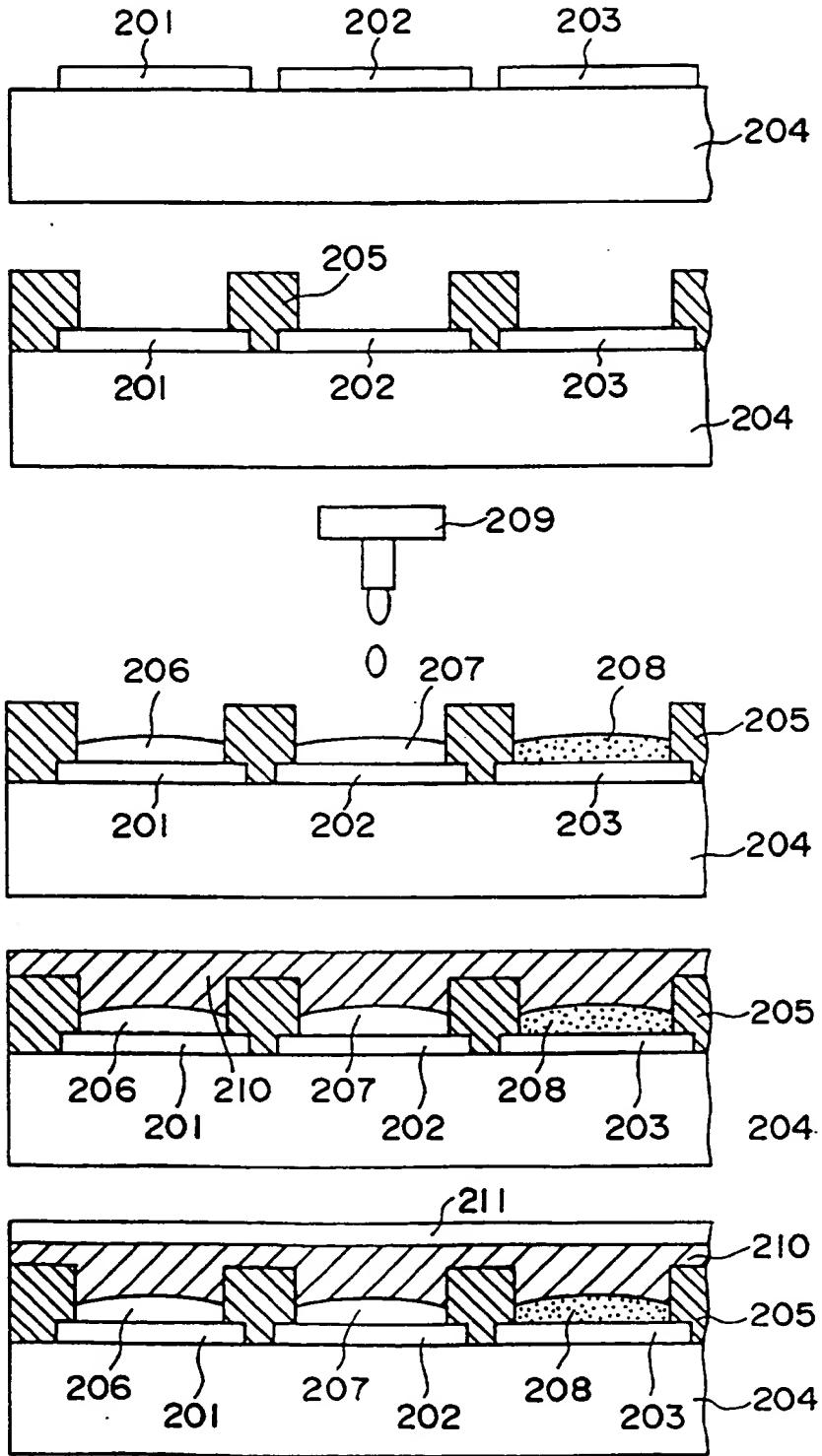


FIG. 3

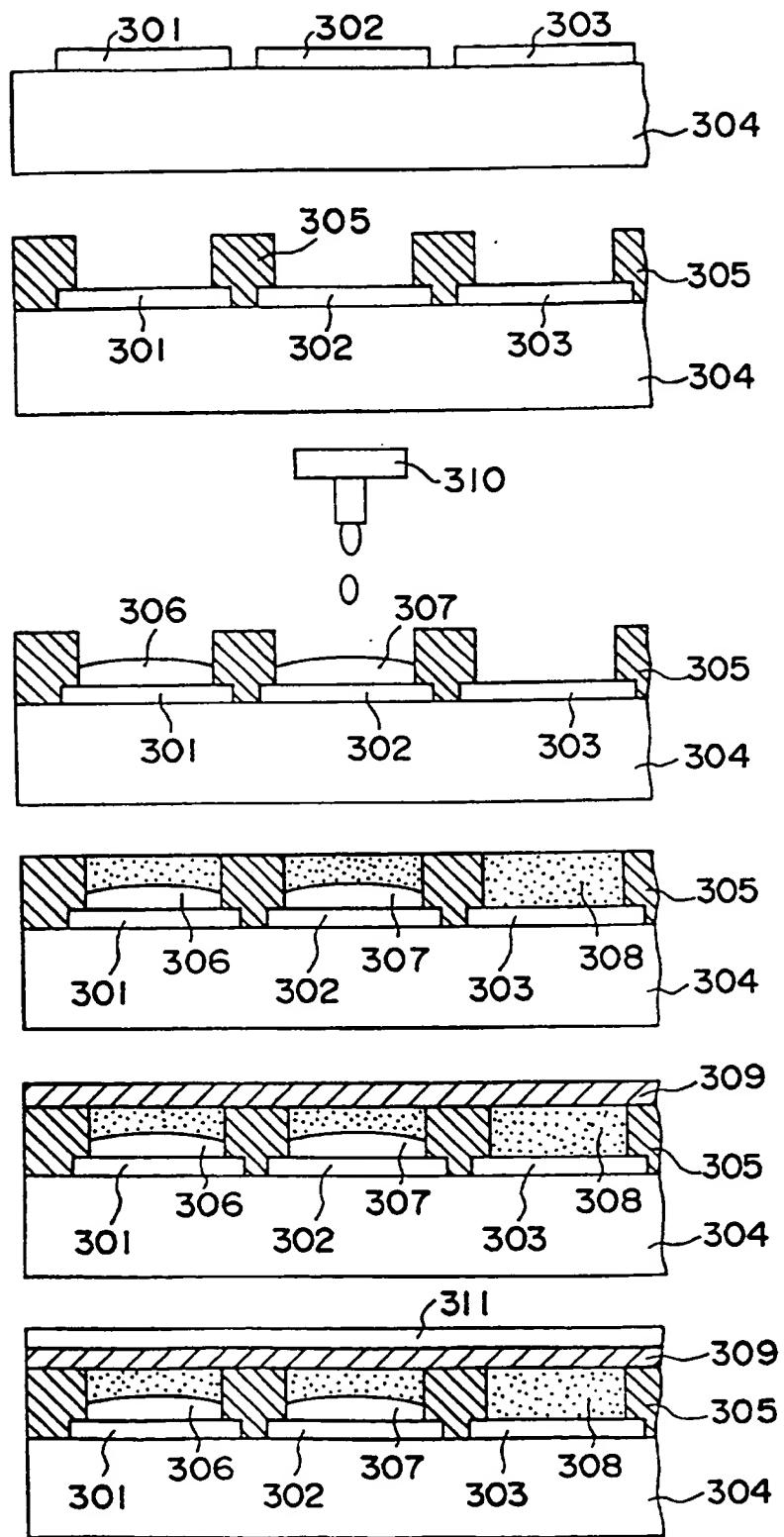
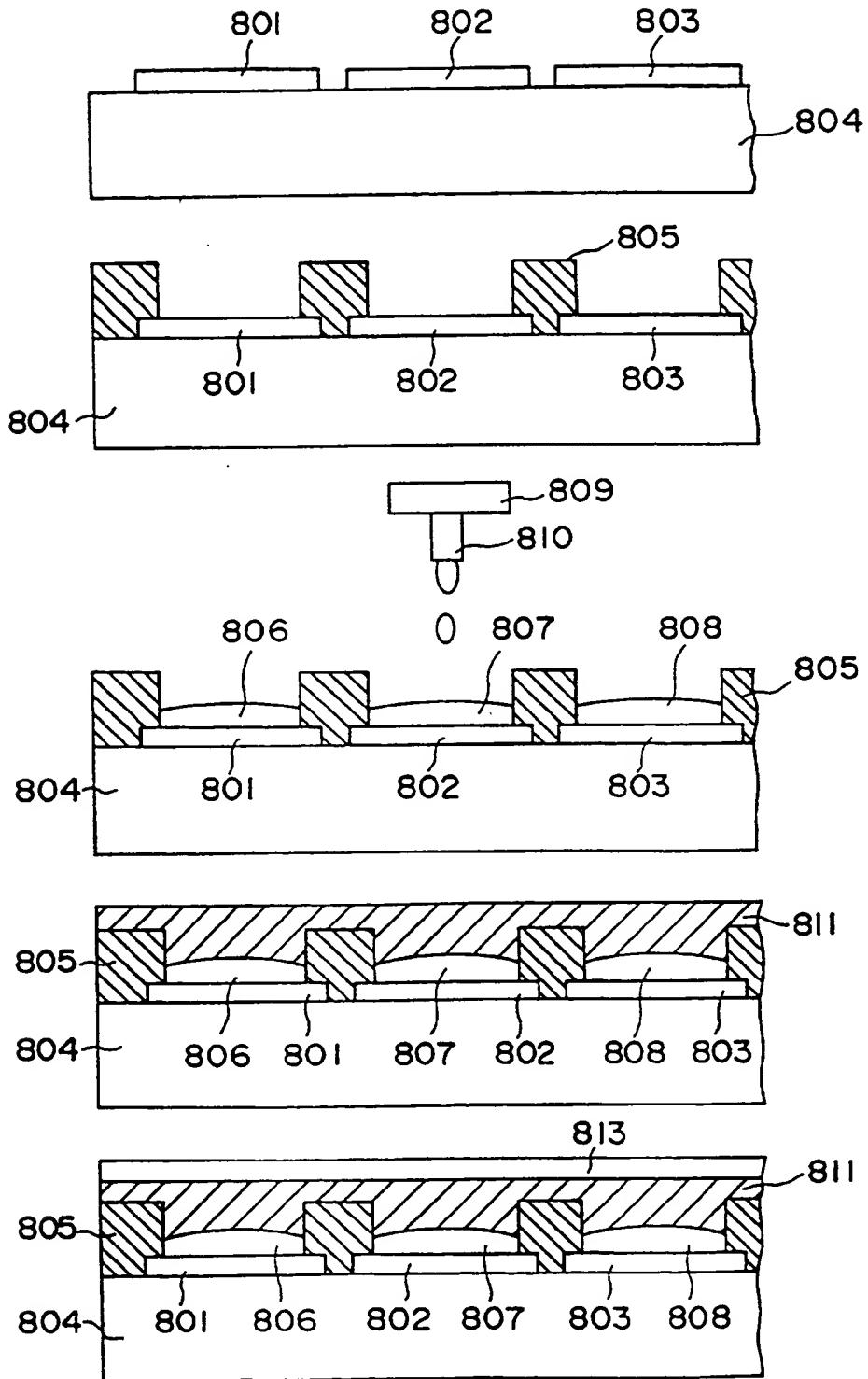
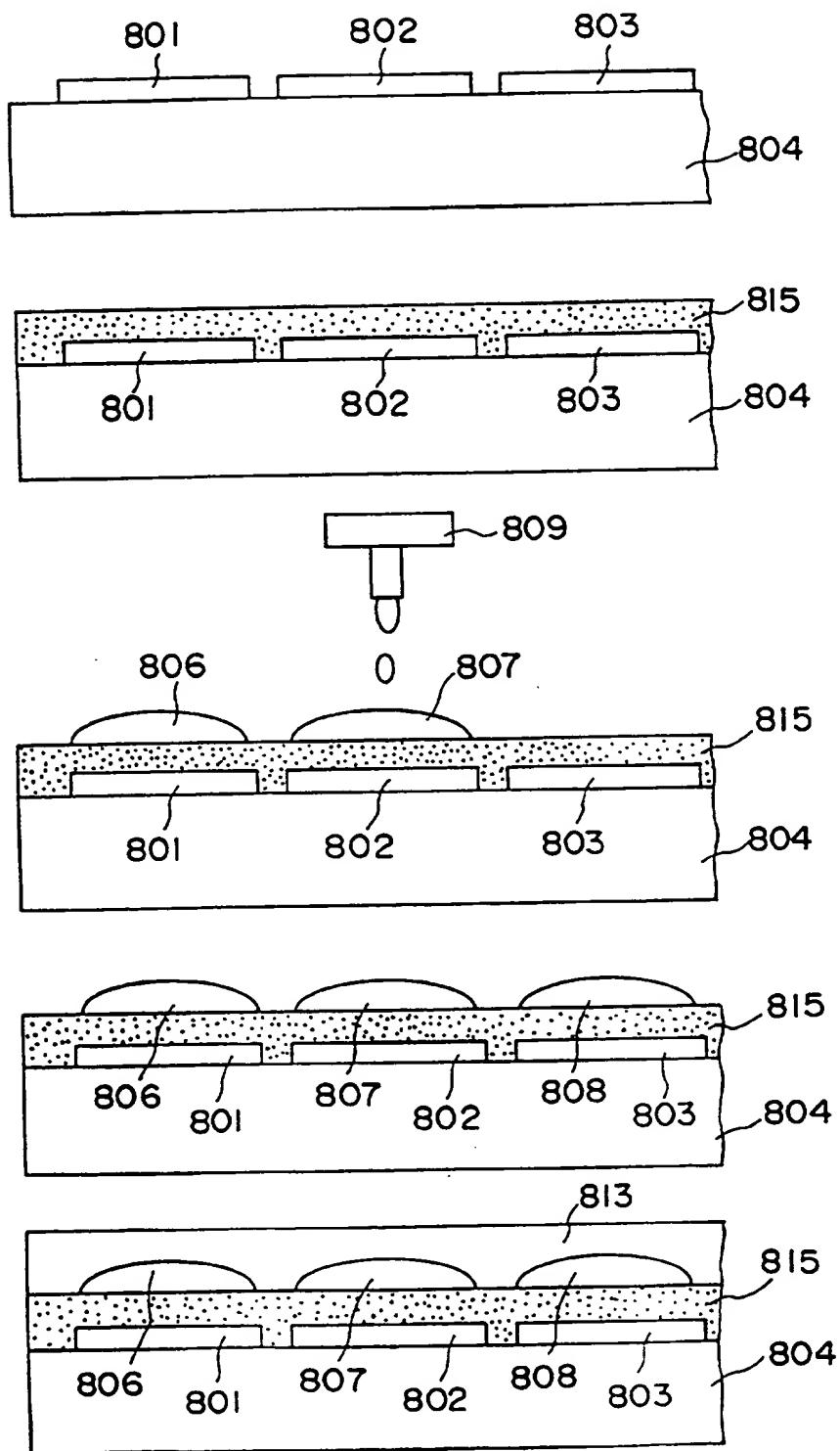


FIG. 4



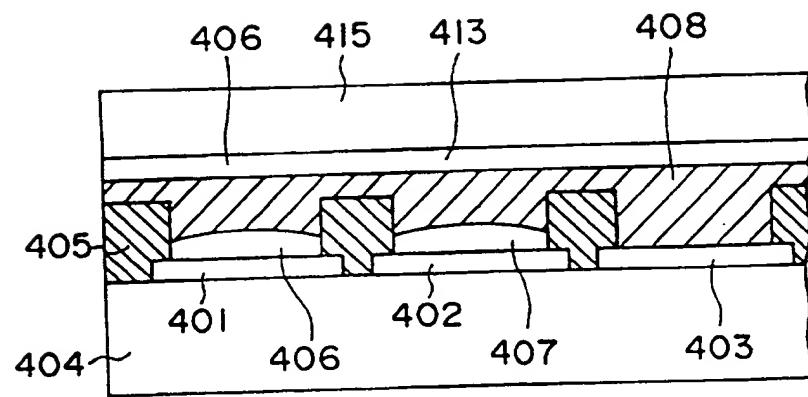
09904093 "072004

FIG. 5



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FIG. 6



09900102 "021001

FIG. 7

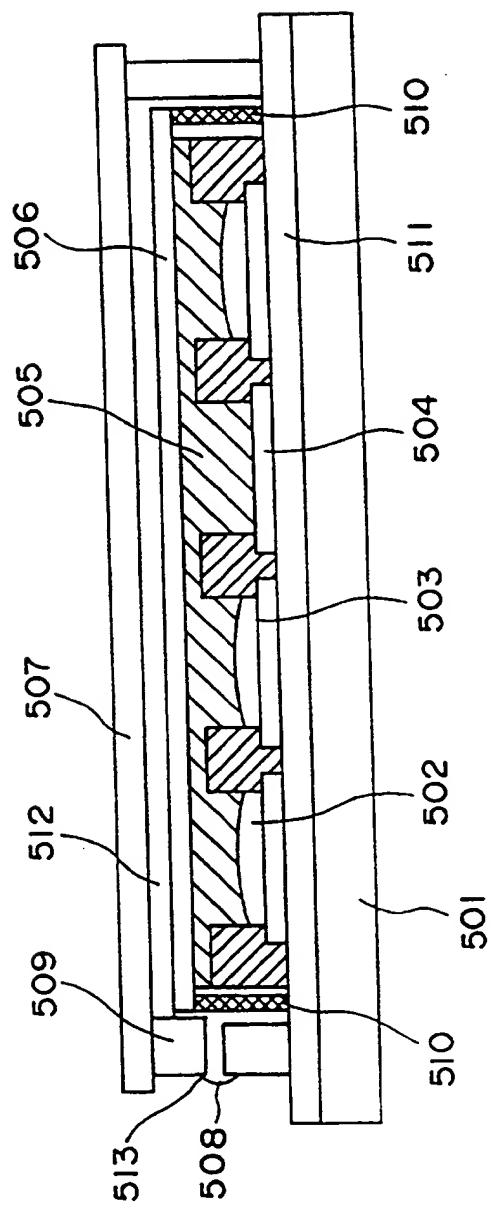
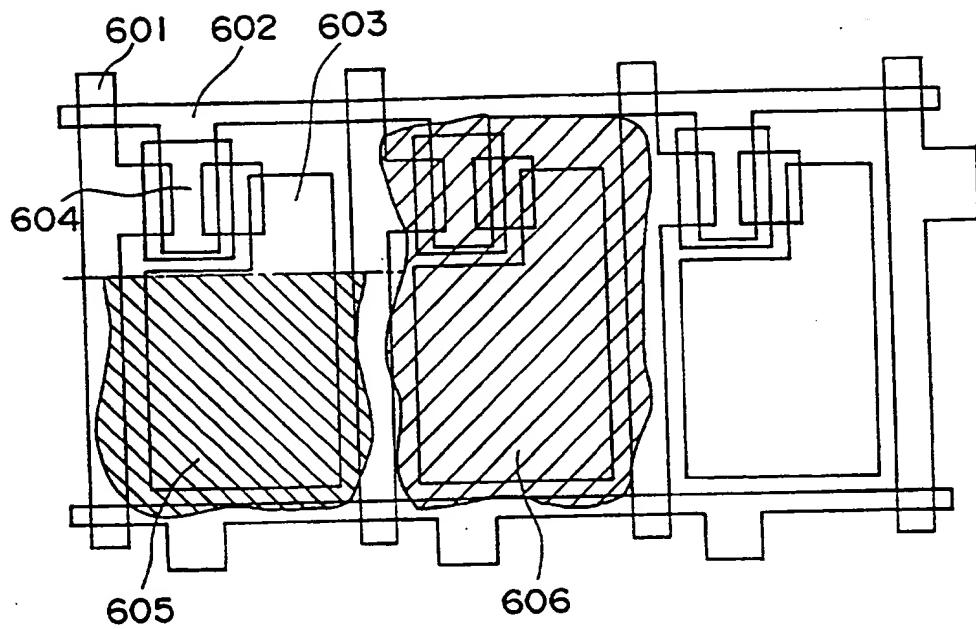
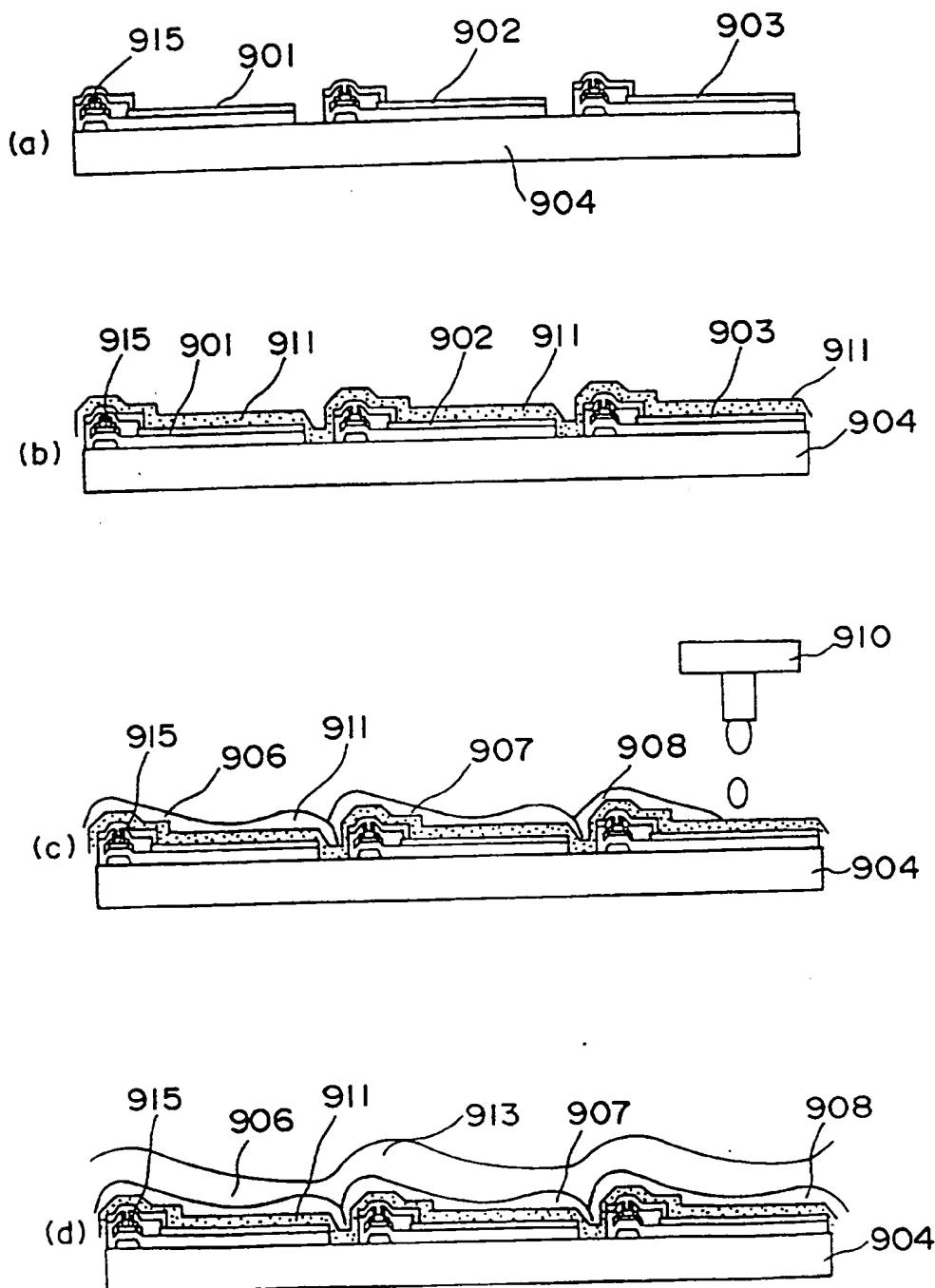


FIG. 8



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FIG. 9



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FIG. 10

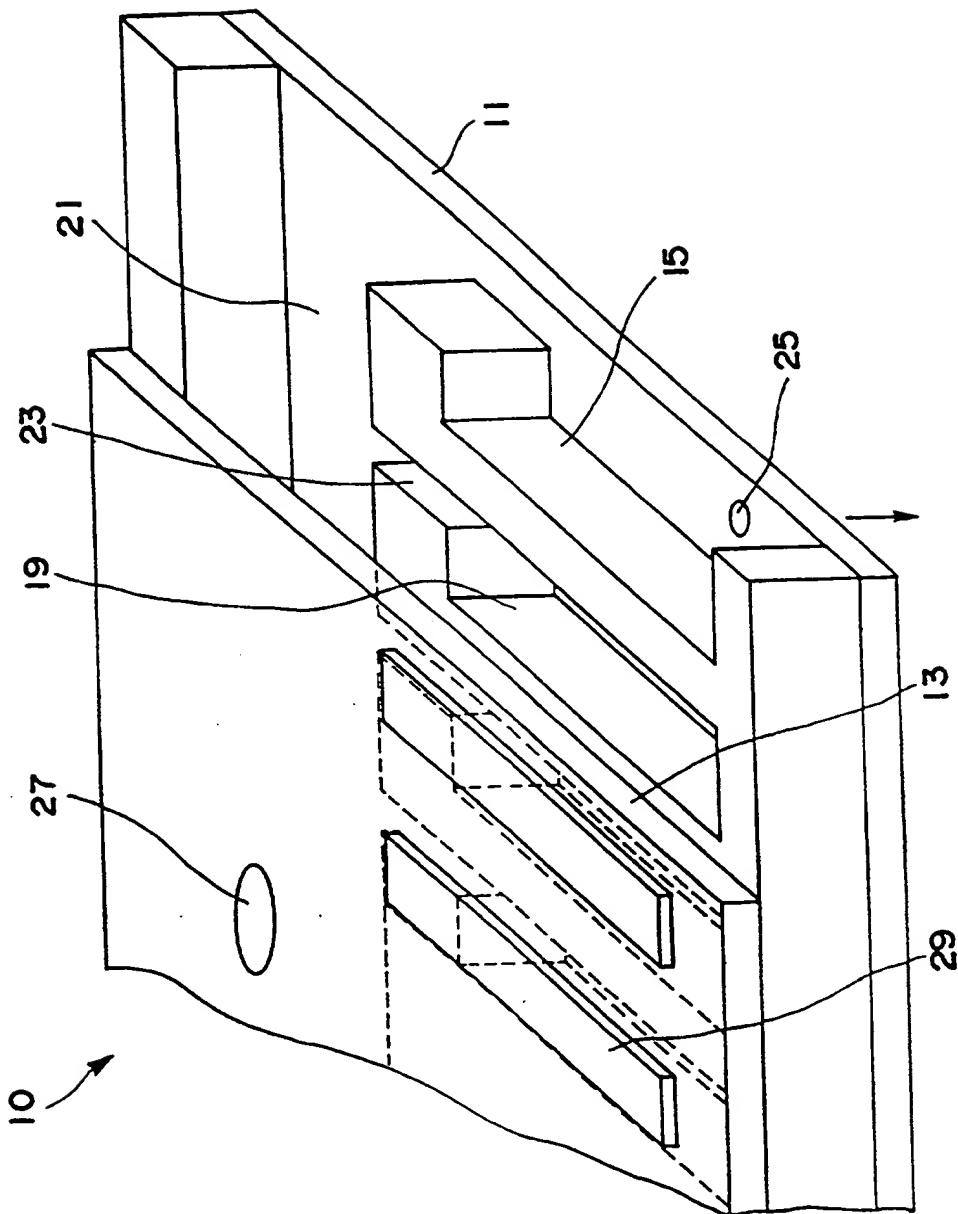
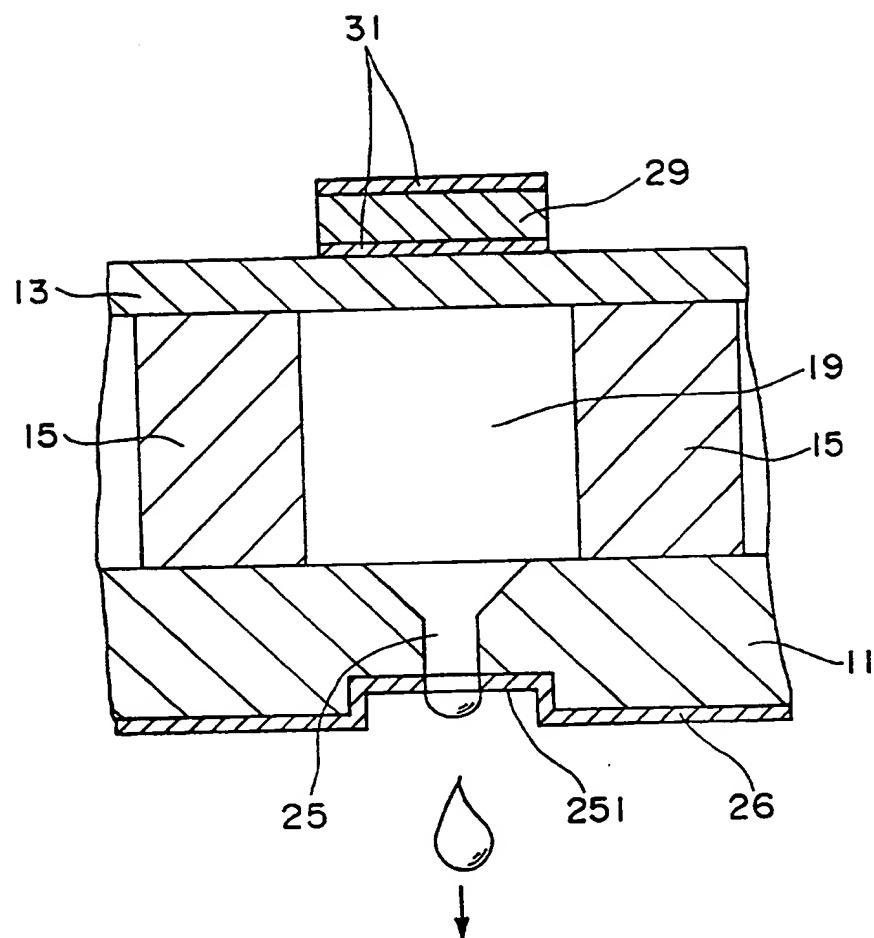
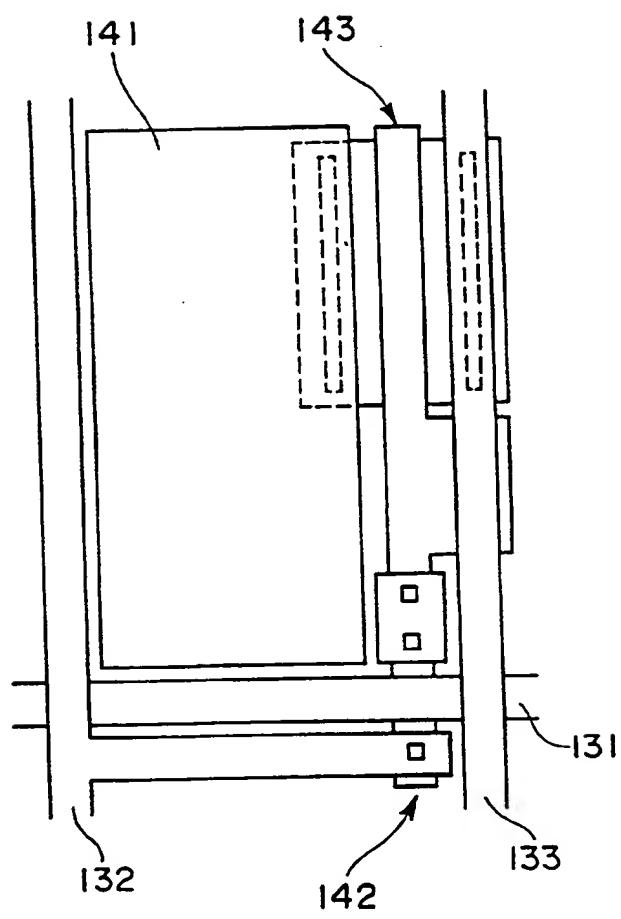


FIG. 11



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FIG. 12



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FIG. 13

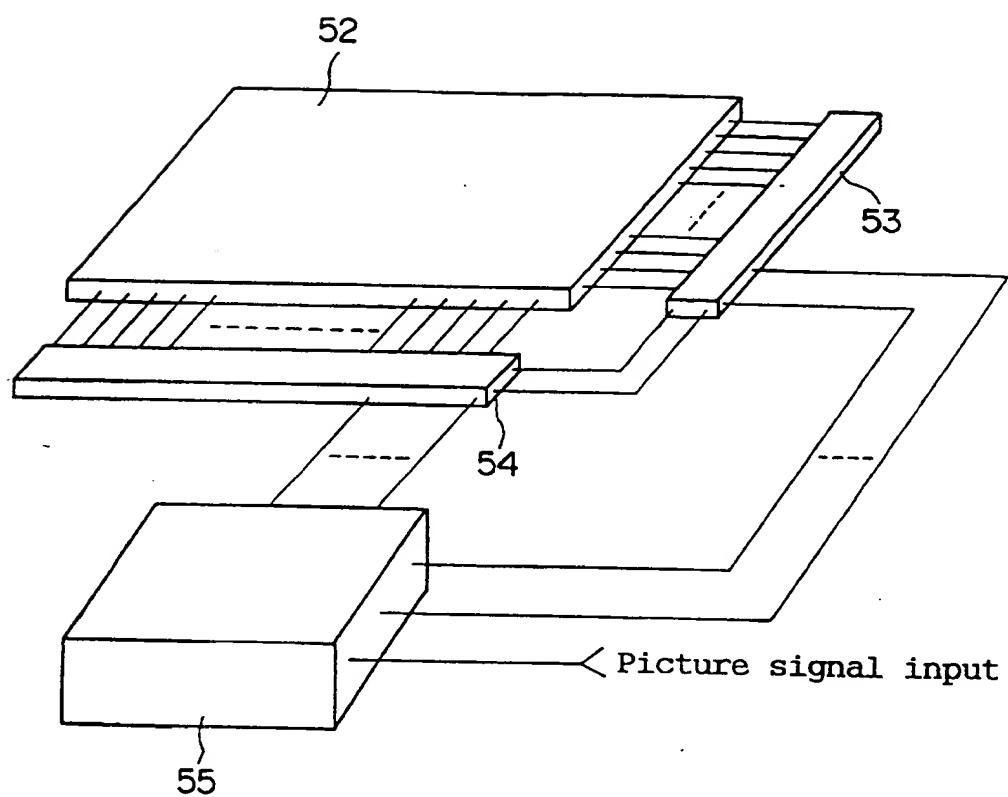


FIG. 14

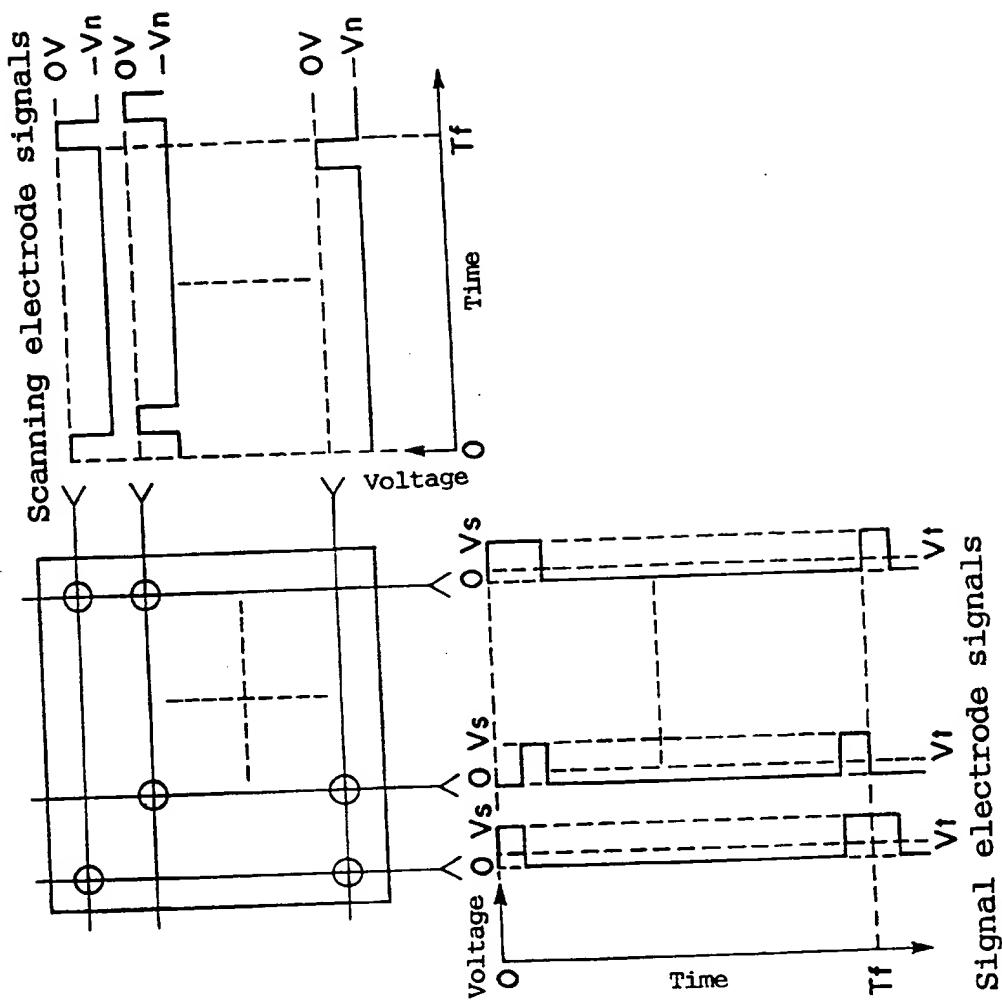
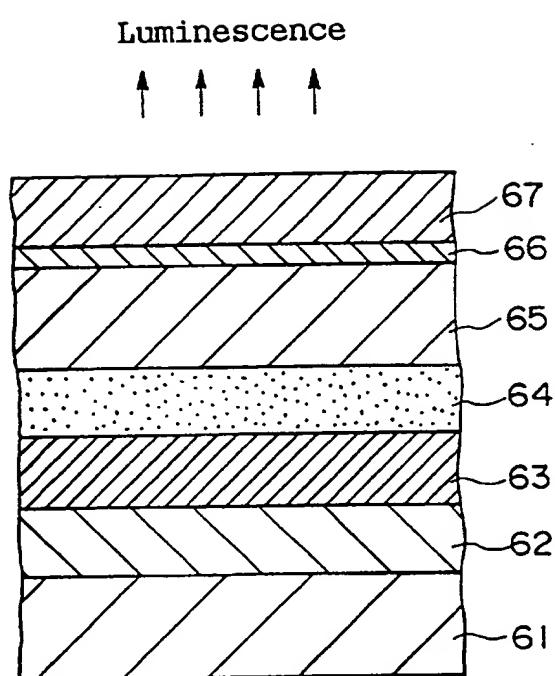


FIG. 15



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Table 1

| | | Luminescent Layer | | | Layer between Layers |
|-----------------------|--|---|---|-------------------------------|----------------------|
| | | Red | Green | Blue | |
| Example 1 Material | CN-PPV Precursor | PPV Precursor | Aluminum Quinololinol Complex | | |
| | Forming Method | Ink-Jet System | Vacuum Deposition Method | | |
| Example 2 Material | CN-PPV Precursor | PPV Precursor | Pyrazoline Dimer | PVK (Hole Injection Layer) | |
| | Forming Method | Ink-Jet System | Coating Method | Ink-Jet System | |
| Example 3 Material | 2-(3',4'-dihydroxyphenyl -3,5,7-trihydroxy-1- benzopyrylium perchlorate | 2,3,6,7-tetrahydro-11- oxo-1H,5H,11H-(1) benzopyran[6,7,8-i,j]- quinolizine-10- carboxylic acid | 2,3,6,7-tetrahydro-9- methyl-11-oxo-1H,5H,11H- (1)benzopyran[6,7,8-i,j]- quinolizine | | |
| | 1,1-bis-(4-N,N-ditolyl aminophenyl) cyclohexane (Hole Injection Layer Material) | 1,1-bis-(4-N,N-ditolyl aminophenyl) cyclohexane (Hole injection layer Material) | Tris(8-hydroxyquinolino) aluminum (Hole injection layer Material) | | |
| | Forming Method | Ink-Jet System | Ink-Jet System | Ink-Jet System | |
| Example 4 Material | CN-PPV Precursor | PPV Precursor | Distyryl Derivative | PVK (Hole Injection Layer) | |
| | Forming Method | Ink-Jet System | Coating Method | Vacuum Deposition Method | |
| Example 5 Material | PPV Precursor | PPV Precursor | PPV Precursor | | |
| | Rhodamine B (Fluorescent Dye) | — | Distyryl biphenyl (Fluorescent Dye) | — | |
| Forming Method | Ink-Jet System | Ink-Jet System | Ink-Jet System | Ink-Jet System | |

Table 2

| Physical Properties of Composition for EL Element | | Viscosity [cp] | Surface Tension [dyne/cm] | Contact Angle [°] |
|--|-------|----------------|---------------------------|-------------------|
| Example 1 | Red | 3. 77 | 32. 9 | 54. 4 |
| | Green | 3. 72 | 32. 8 | 59. 0 |
| | Blue | — | — | — |
| Example 2 | Red | 3. 70 | 32. 6 | 55. 6 |
| | Green | 7. 73 | 33. 1 | 59. 8 |
| | Blue | 3. 88 | 33. 3 | 60. 0 |
| Example 3 | Red | 4. 85 | 27. 8 | 47. 8 |
| | Green | 5. 31 | 25. 6 | 45. 6 |
| | Blue | 4. 52 | 28. 2 | 40. 3 |
| Example 4 | Red | 3. 78 | 33. 5 | 60. 1 |
| | Green | 3. 75 | 32. 1 | 59. 7 |
| | Blue | — | — | — |
| Example 5 | Red | 3. 80 | 33. 1 | 55. 0 |
| | Green | 3. 75 | 32. 9 | 59. 1 |
| | Blue | 3. 91 | 33. 2 | 60. 2 |

Table 3

| | Luminescence Starting Voltage [V _{th}] | | | Luminescence Life [hr] | | | Luminance [cd/m ²] | | | Wavelength at Maximum Absorption [nm] | | |
|-----------|--|------|------|------------------------|-------|-------|--------------------------------|-----|-----|---------------------------------------|-----|-----|
| | R | G | B | R | G | B | R | G | B | R | G | B |
| Example 1 | 2. 0 | 2. 2 | 3. 1 | 8000 | 8000 | 8000 | 210 | 230 | 200 | 600 | 500 | 400 |
| Example 2 | 1. 7 | 1. 8 | 3. 2 | 10000 | 10000 | 9000 | 230 | 230 | 180 | 600 | 500 | 410 |
| Example 3 | 4. 0 | 3. 5 | 3. 8 | 4000 | 5000 | 4000 | 150 | 180 | 100 | 580 | 510 | 420 |
| Example 4 | 1. 7 | 1. 8 | 2. 2 | 10000 | 10000 | 10000 | 250 | 250 | 200 | 600 | 530 | 480 |
| Example 5 | 3. 0 | 3. 2 | 5. 0 | 5000 | 5000 | 5000 | 200 | 200 | 200 | 590 | 530 | 420 |

Table 4

| | Stability in Film Formation | | |
|-----------|-----------------------------|---|---|
| | R | G | B |
| Example 1 | ○ | ○ | ○ |
| Example 2 | ○ | ○ | ○ |
| Example 3 | ○ | ○ | ○ |
| Example 4 | ○ | ○ | ○ |
| Example 5 | ○ | ○ | ○ |